

What is claimed is:

1. A method for navigating a vehicle around a real site comprising the steps of:

(A) creating a database of Positional Reality Images (PRI) that substantially
5 accurately represents said real site; said real site comprising at least one three
dimensional real geometrical object; each said Positional Reality Image (PRI)
substantially accurately represents at least one three dimensional real geometrical
object of said real site;

and

10 (B) accessing said database of Positional Reality Images (PRI) that
substantially accurately represents said real site in order to navigate said vehicle
around said real site.

2. The method of claim 1, wherein said step (A) of creating said database of
15 Positional Reality Images (PRI) that substantially accurately represents said real
site further includes the step of:

(A1) employing an integrated Positional Reality System (PRS) configured to
create said database of Positional Reality Images (PRI) that substantially accurately
represents said real site; said integrated Positional Reality System (PRS)
20 comprising a positioning system integrated with a plurality of optical systems.

3. The method of claim 2, wherein said step (A1) of employing said integrated
Positional Reality System (PRS) configured to create said database of Positional
Reality Images (PRI) that substantially accurately represents said real site further

comprises the steps of:

(A1,1) selecting a real site object;

(A1,2) estimating a range from said PRS to said selected real site object;

(A1,3) selecting an optimum optical system;

5 (A1,4) generating a Positional Reality Image (PRI) of said selected real site object;

and

(A1,5) repeating said steps ((A1,1) - (A1,4)) in order to create a database comprising a substantially complete set of Positional Reality Images (PRIs) of said
10 real site.

4. The method of claim 3, wherein said step (A1,3) of selecting said optimum optical system further includes the steps of:

15 selecting a laser-diode-based optical scanning system if a range between said PRS and said real site object comprises a short range distance;

and

selecting a pulse-type-microlaser-based optical system if said range between said PRS and said real site object comprises a short-to-medium range distance.

20 5. The method of claim 1, wherein said step (B) of accessing said database of Positional Reality Images (PRI) that accurately represents said real site in order to navigate said vehicle around said real site further comprises the step of:

(B1,1) viewing said database comprising said substantially complete set of Positional Reality Images of said real site.

6. The method of claim 5, wherein said vehicle is equipped with said PRS, further including the step of:

(B1,2) navigating said vehicle around said real site.

5 7. The method of claim 5, wherein said vehicle is equipped with said PRS, further including the step of:

(B1,3) navigating said vehicle around said real site in real time.

8. The method of claim 5, wherein said vehicle is equipped with said PRS, further including the step of:

10 (B1,4) navigating said vehicle around said real site in complete darkness.

9. The method of claim 1 further comprising the step of:

15 (C) storing said database of Positional Reality Images (PRI) that substantially accurately represents said real site.

10. The method of claim 1 further comprising the step of:

20 (D) transmitting said database of Positional Reality Images (PRI) that substantially accurately represents said real site from said PRS system to a base station (BS).

11. The method of claim 10 further comprising the steps of:

(E) transmitting said database of Positional Reality Images (PRI) that substantially accurately represents said real site from said base station (BS) into a

vehicle;

(F) viewing said database of Positional Reality Images (PRI) that substantially accurately represents said real site by an operator of said vehicle;
and

5 (G) navigating said vehicle around said real site by accessing said database of Positional Reality Images (PRI) that substantially accurately represents said real site.

12. The method of claim 10, wherein said step (G) of navigating said vehicle
10 around said real site by accessing said database of Positional Reality Images (PRI) that substantially accurately represents said real site further comprises the step of:
(G1) navigating said vehicle around said real site in complete darkness.

13. The method of claim 10 further comprising the step of:
15 (H) posting said database of Positional Reality Images (PRI) that substantially accurately represents said real site on an Internet web site.

14. The method of claim 13 further including the step of:
(I) web casting said database of Positional Reality Images (PRI) that
20 substantially accurately represents said real site from said Internet web site.

15. An apparatus for navigating a vehicle around a real site, said apparatus comprising:

an integrated Positional Reality System (PRS) mounted on a moving

platform; said integrated Positional Reality System (PRS) further comprising:

a positioning system;

and

a plurality of optical systems integrated with said positioning system;

5 wherein said Positional Reality System (PRS) is configured to create a plurality of Positional Reality Images (PRIs) of said real site; wherein each said PRI image represents at least one real object located at said real site.

10 16. The apparatus of claim 15, wherein said plurality of optical systems integrated with said positioning system further comprises:

a laser-diode-based optical scanning system configured to measure a short range distance between said PRS system and a real site object;

and

15 a pulse-type-microlaser-based optical system configured to measure a short-to-medium range distance between said PRS system and a real site object.

17. The apparatus of claim 15 further comprising:

a see-through display.

20 18. The apparatus of claim 15 further comprising:

a telemonitor.

19. The apparatus of claim 15 further comprising:

a storage means for storing a database of PRI images of said real site.

20. The apparatus of claim 15 further comprising:

a transceiver configured to wirelessly transmit said database of PRI images of said real site to a Base Station (BS).

5 21. The apparatus of claim 15 further comprising:

a transceiver configured to wirelessly receive said database of PRI images of said real site from said BS.

22. The apparatus of claim 15 further comprising:

10 a transceiver configured to wirelessly receive said database of PRI images of said real site from a web site.

23. The apparatus of claim 15 further comprising:

15 a virtual controller configured to get access to said database of said set of PRI images of said real site.

24. The apparatus of said claim 15, wherein said positioning system is selected from the group consisting of: {a Satellite Positioning System (SATPS); a GALILEO system; a GPS system; a differential DGPS system; a real time
20 kinematic RTK GPS system; a combined GLONASS/GPS system; a combined GALILEO/GPS system; an inertial navigation system (INS); and a pseudolite navigation system}.